

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Paul A. DiTullio et al. Art Unit: 1649
Serial No.: 09/247,246 Examiner:
Filed : February 9, 1999
Title : GENETIC MANIPULATION OF SPERMATOGONIA

Assistant Commissioner for Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached
form PTO 1449, copies of which are enclosed.

This statement is being filed after a first Office
action on the merits, but before receipt of a final Office action
or a Notice of Allowance. A check for \$240 in payment of the
late submission fee of \$1.17(p) is enclosed.

Date of Deposit 2/9/99
I hereby certify under 37 CFR 1.8(a) that this correspondence is being
deposited with the United States Postal Service as first class mail
with sufficient postage on the date indicated above and is addressed to
the Assistant Commissioner for Patents, Washington, D.C. 20231.

LISA ROBUCK

Please apply any additional charges or credits to
Deposit Account No. 06-1050.

Respectfully submitted,

Date: 6/9/99

I A Beattie
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225 Franklin Street
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374060.B11

SUBSTITUTE FORM PTO-1449
(MODIFIED)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
10668/002001SERIAL NO.
09/247,246INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

(37 CFR 1.98(b))

APPLICANT
Paul A. DiTullio et al.FILING DATE
February 9, 1999GROUP
1649

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		PATENT NUMBER							ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4	8	7	3	1	9	1	10/1989	Wagner et al.	435	172.3	08/1986
	AB												
	AC												
	AD												
	AE												
	AF												
	AG												
	AH												
	AI												
	AJ												
	AK												

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

	AQ	Brinster, R.L. et al., Proc. Natl. Acad. Sci. USA 82:4438-4442 (1985)
	AR	Snyder, B.W., et al., Mol. Reproduction and Development 40:419-428 (1995)
	AS	Ebert, K.M. and J.P. Selgrath, in Applications in Mammalian Development, Cold Spring Harbor Laboratory Press, 1991

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SUBSTITUTE FORM PTO-1449 (MODIFIED) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR 1.98(b))	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 10668/002001	SERIAL NO. 09/247,246
	APPLICANT Paul A. DiTullio et al.		
	FILING DATE February 9, 1999	GROUP 1649	

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
BA						
BB						
BC						
BD						
BE						
BF						
BG						
BH						
BI						
BJ						
BK						

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
BL							
BM							
BN							
BO							
BP							

OTHER DOCUMENTS (Including Author, Title, Date, Place of Publication)

BQ	Ebert, K.M. et al., Animal Biotechnology 1:145-159 (1990)
BR	Osman, N., et al., Proc. Natl. Acad. Sci USA 94:14677-14682 (1997)
BS	

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: DiTullio, Paul

ASSIGNEE: TransXenoGen, Inc.

SERIAL NUMBER: 09/247,246

EXAMINER: R. Schnizer

FILING DATE: February 9, 1999

ART UNIT: 1632

FOR: GENETIC MANIPULATION OF SPERMATOGONIA

June 7, 2001

Boston, Massachusetts

Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL LETTER

Transmitted herewith for filing in the above-referenced patent application are the following documents:

- ☒ Supplemental Information Disclosure Statement (3 pgs.);
- ☒ PTO Form 1449(1 pg., in duplicate);
- ☒ Copy of eleven (11) references;
- ☒ Check No. 9115 for \$180.00; and
- ☒ Return Postcard.

If the enclosed papers are considered incomplete, the Mail Room is respectfully requested to contact the undersigned collect at 617-542-6000, Boston, Massachusetts. Although Applicants believe no fees are due in connection with this filing, the Commissioner is hereby authorized to charge any deficiencies to the undersigned's account, Deposit Account No. 50-0311, Ref. No. 21578-002.

Respectfully submitted,



Ingrid A. Beattie, Reg. No. 42,306

Attorney for Applicant

c/o MINTZ, LEVIN

One Financial Center

Boston, Massachusetts 02111

Tel: (617) 542-6000

Fax: (617) 542-2241

EK611847615US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Paul DiTullio
ASSIGNEE: TranXenoGen, Inc.
SERIAL NUMBER: 09/247,246 EXAMINER: R. Schnizer
FILING DATE: February 9, 1999 ART UNIT: 1632
FOR: GENETIC MANIPULATION OF SPERMATOGONIA

June 7, 2001
Boston, Massachusetts

Assistant Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, Applicant hereby makes of record the documents listed below and on the attached modified Form PTO-1449 (submitted in duplicate) in the above-identified application, copies of which are submitted herewith. The order of presentation of the references should not be construed as an indication of the importance of the references.

Other Prior Art – Non Patent Literature Documents:

- CA Baccetti et al. (2000) "Conclusions", *Mol. Reprod. Dev.*, Vol. 56, pp. 329-330.
- CB Brinster et al. (1994) "Germline Transmission of Donor Haplotype Following Spermatogonial Transplantation", *Proc. Natl. Acad. Sci. U.S.A.*, Vol. 91, pp. 11303-11307.
- CC Brinster et al. (1994) "Spermatogenesis Following Male Germ-cell Transplantation", *Proc. Natl. Acad. Sci. U.S.A.*, Vol. 91, pp. 11298-11302.
- CD Cappello et al. (2000) "hDAF Expression in Hearts of Transgenic Pigs Obtained by Sperm-Mediated Gene Transfer", *Transpl. Proc.*, Vol. 32, pp. 895-896.
- CE Hagmann, M. (1999) "Fertility Therapy May Aid Gene Transfer", *Science*, Vol. 284, pp. 1098-1099.
- CF Lai et al. (1997) "Generation of Transgenic Mice Expressing Human Tissue-type Plasminogen Activator in Mammary Glands by Transfecting Spermatogonia *In Vivo*", In Annual Anthology of University of Agriculture and Animal Science, PLA., Changchun, p. 58.

- CG Lavitrano et al. (1999) "Human Decay Accelerating Factor Transgenic Pigs for Xenotransplantation Obtained by Sperm-Mediated Gene Transfer", *Transpl. Proc.*, Vol. 31, pp. 972-974.
- CH Maione et al. (1998) "Sperm-Mediated Gene Transfer in Mice", *Mol. Repr. And Dev.*, Vol. 50, pp. 406-409.
- CI Ogura et al. (1998) "Development of Normal Mice from Metaphase I Oocytes, Fertilized with Primary Spermatocytes", *Proc. Natl. Acad. Sci. U.S.A.*, Vol. 95, pp. 5611-5615.
- CJ Perry et al. (1999) "Mammalian Transgenesis by Intracytoplasmic Sperm Injection", *Science*, Vol. 284, pp. 1180-1183.
- CK Songsasen et al. (1998) "Live Mice from Cryopreserved Embryos Derived *In Vitro* with Cryopreserved Ejaculated Spermatozoa", *Lab. Anim. Sci.*, Vol. 48, pp. 275-281.

This Information Disclosure Statement is being filed more than three months after the filing date of this application and after the mailing date of the first Office Action, but before the mailing date of either a final action under 37 C.F.R. §1.113 or a Notice of Allowance under 37 C.F.R. §1.311.

- ☒ The fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) is enclosed.
- ☐ The Applicant hereby certifies, as specified in 37 C.F.R. §1.97(e), that:
(Check a or b below)
- ☐ a. Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign Patent Office in a counterpart for this application not more than three months prior to the filing of this Statement.
- ☐ b. No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart for this application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Statement.
- ☐ c. before the mailing date of a first Office Action on the merits in the above-identified case.
Accordingly, no fee or certification is required. 37 C.F.R. §1.97.

A copy of each of the above-identified information is enclosed unless otherwise indicated on the attached Form PTO-1449 (modified). It is respectfully requested that the Examiner consider completely the cited information, along with any other information, in reaching a

determination concerning the patentability of the present claims, and signs the enclosed form PTO-1449 to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that: (1) a search has been performed, of the extent of any search performed, or that more relevant information does not exist; (2) the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b); and (3) the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his/her own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested. Please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 21578-002.

Respectfully submitted,



Ingrid A. Beattie, Reg. No. 42,306
Attorney for Applicant
MINTZ, LEVIN, COHN, FERRIS
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Boston, Massachusetts 02111
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Date: June 7, 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Paul DiTullio
SERIAL NO.: 09/247,246 EXAMINER: R. Schnizer
FILING DATE: February 9, 1999 ART UNIT: 1632
TITLE: GENETIC MANIPULATION OF SPERMATOGONIA

Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL LETTER

Transmitted herewith for filing in the present application are the following documents:

- Supplemental Information Disclosure Statement
- Form PTO 1449
- Copies of 1 Reference
- Return Postcard

Please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 21578-002. A duplicate copy of this Petition is enclosed.

Respectfully submitted,



Ingrid A. Beattie, Reg. No. 42,306
Attorney for Applicants
MINTZ, LEVIN, COHN, FERRIS,
GLOVSKY and POPEO, P.C.
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Tel: (617) 542-6000
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Dated: September 27, 2000

Express Mail Label No.: EJ7,0262736US

Date of Deposit: September 27, 2000

Attorney Docket No. 21578-002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Paul DiTullio

ASSIGNEE: TranXenoGen, Inc.

SERIAL NUMBER: 09/247,246

EXAMINER: R. Schnizer

FILING DATE: February 9, 1999

ART UNIT: 1632

FOR: GENETIC MANIPULATION OF SPERMATOGONIA

September 27, 2000

Boston, Massachusetts

Assistant Commissioner for Patents
Washington, D.C. 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, Applicants hereby make of record the documents listed below and on the attached modified Form PTO-1449 (submitted in duplicate) in the above-identified application, copies of which are submitted herewith. The order of presentation of the references should not be construed as an indication of the importance of the references.

Other Prior Art – Non Patent Literature Documents:

AB Yamazaki, Yukiko et al. (1998) "In Vivo Gene Transfer to Mouse Spermatogenic Cells by Deoxyribonucleic Acid Injection Into Seminiferous Tubules and Subsequent Electroporation" *Biology of Reproduction*, Vol. 55, pp. 1439-1444;

This Information Disclosure Statement is being filed more than three months after the filing date of this application and after the mailing date of the first Office Action, but before the mailing date of either a final action under 37 C.F.R. §1.113 or a Notice of Allowance under 37 C.F.R. §1.311.

- ☒ The fee of \$240 as set forth in 37 C.F.R. §1.17(p) is enclosed.
- ☐ The Applicant hereby certifies, as specified in 37 C.F.R. §1.97(e), that:
(Check a or b below)
- ☐ a. Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign Patent Office in a counterpart for this application not more than three months prior to the filing of this Statement.
- ☐ b. No item of Information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart for this application or, to the knowledge of the under signed after making reasonable inquiry, was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this Statement.
- ☐ c. before the mailing date of a first Office Action on the merits in the above-identified case.

Accordingly, no fee or certification is required. 37 C.F.R. §1.97.

A copy of each of the above-identified information is enclosed unless otherwise indicated on the attached Form PTO-1449 (modified). It is respectfully requested that the Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims, and signs the enclosed form PTO-1449 to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that: (1) a search has been performed, of the extent of any search performed, or that more relevant information does not exist; (2) the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b); and (3) the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his/her own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested. Please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 14791-502.

Respectfully submitted,



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Dated September 27, 2000
TRADOCS:1255248.1(QWK001!.DOC)

Modified Form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)	Application Number	09/247,246
	Filing Date	February 9, 1999
	First Named Inventor	Paul DiTullio
	Group Art Unit	1632
	Examiner	R. Schnizer
	Attorney Docket Number	21578-002

U.S. PATENT DOCUMENTS							
Exam Initials	Cite No.	U.S. Patent Document No.	Issue Date	Name of Patentee(s) or Applicant(s)	Class	Sub Class	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS							
Exam Initials	Cite No.	Foreign Patent Document Office Number	Name of Patentee(s) or Applicant(s)	Date of Publication	Translation Yes No		

OTHER NON PATENT LITERATURE DOCUMENTS		
Exam Initials	Cite No.	Name of Author, Title (when appropriate), Publication, Volume, Page(s), Date, Etc.
	AB	Yamazaki, Yukiko et al. (1998) "In Vivo Gene Transfer to Mouse Spermatogenic Cells by Deoxyribonucleic Acid Injection Into Seminiferous Tubules and Subsequent Electroporation" Biology of Reproduction, Vol. 59, pp.

* a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, U.S.S.N. _____, filed _____, and relied upon for an earlier filing date under 35 U.S.C. §120 (continuation, continuation-in-part, and divisional applications).

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.

Include copy of this form with next communication to applicant.

TRADOCS:1369360.1(TCLS011.DOC)